STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	**:**	
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Approval of Energy Efficiency and Demand	**:**	**Docket No. 07-0540**
Response Plan Pursuant to Section 12-103(f)	**:**	
Of the Public Utilities Act	**:**	

DIRECT TESTIMONY OF RALPH ZARUMBA

ON BEHALF OF

THE BUILDING OWNERS AND MANAGERS ASSOCIATION OF CHICAGO

DECEMBER 14, 2007

I. Introduction and Qualifications

Q. Please state your name and business address.

A. My name is Ralph Zarumba. My business address is 8301 Greensboro Drive, McLean, Virginia, 22102.

Q. By whom are you employed and in what capacity?

A. I am employed by Science Applications International Corporation ("SAIC") as Director – Economic Analysis.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of The Building Owners and Managers Association of Chicago ("BOMA/Chicago"). BOMA/Chicago is comprised of 260 office building members as well as the 8,000 large and small businesses, governmental agencies, not-for-profit organizations, and other tenants employing over 240,000 people who work in those buildings. BOMA/Chicago's membership accounts for over 82% of all the office square footage in Chicago and approximately 5% of the total customer load of Commonwealth Edison Company ("ComEd").

Q. Would you please summarize your professional qualifications?

A. I have 22 years experience in the energy industry as an economist. My resume is provided in BOMA/Chicago Exhibit 1.1.

Q. Have you previously testified before the Illinois Commerce Commission (the "Commission" or "ICC")?

A. Yes, I have testifies before the ICC and the state regulatory commissions of Massachusetts, Rhode Island and Wisconsin. I have also testified

before the Federal Energy Regulatory Commission and appeared as an expert witness in other legal proceedings associated with energy matters.

II. Purpose of Testimony

Q. What is the purpose of your testimony?

A. I preface my direct testimony with the statement that the accelerated schedule in this proceeding is not allowing for an exhaustive investigation of the policies and processes being set forth or an examination of the details for the implementation of the energy efficiency programs proposed by the Company. Although BOMA/Chicago acknowledges that an accelerated scheduled has been specified by statute, we also suggest that the Commission allow for flexibility to change programs and policies in the future, especially given that the programs implemented will continue for at least three years.

My testimony addresses the document entitled 2008-10 Energy Efficiency and Demand Response Plan filed by Commonwealth Edison ("ComEd" or "the Company") in this proceeding and specifically addresses certain issues in the pre-filed testimonies of ComEd Witness Mr. Paul Crumrine. I also have included policy statements regarding electricity pricing and their impact on energy efficiency.

Q. How is the balance of your testimony organized?

A. My testimony is organized as follows:

Section III summarizes my Conclusions and Recommendations;

Section IV addresses my proposed changes to the surcharges that will support the energy efficiency programs addressed in this proceeding; Section V discusses potential problems when energy efficiency is implemented and the utility is not using marginal cost pricing.

III. Conclusions and Recommendations

Q. Please list your conclusions and recommendations.

A. First, BOMA/Chicago is offering an alternative approach to calculating the surcharge mandated by Section 12-103(d). The alternative approach I have sponsored to these calculations better reflects the spirit of the statute and is more equitable to specific customer groups.

Second, the Commission would best serve the needs of the customers if they recognized that providing real time information to customers regarding their electric usage is a cost-effective energy efficiency measure. BOMA/Chicago proposes that ComEd make this information available to customers free or at a minimal cost.

Third, BOMA/Chicago suggests that the Commission reconsider their abandonment of marginal cost analyses in allocating the utility revenue requirement and setting prices. Embracing pricing based upon allocated cost of service analysis while implementing utility administered energy efficiency programs can potentially be counter-productive.

IV. Energy Efficiency is Promoted if Energy Usage Information is Inexpensive and Easily Available

Q. Is information an important element in implementing electric energy efficiency programs?

A. Yes. Information on energy consumption is critical if the goal is the efficient consumption of electric power. First, electric power cannot be stored and therefore the price is extremely volatile. Even a relatively small shift in consumption from one time period to another can potentially trigger significant energy savings, a reduction in the amount of effluents emitted by electric generation and the efficient use of electric power infrastructure. Large commercial office space, such as the type operated by BOMA/Chicago, has the ability to control and shift load from high cost periods to low cost periods. However, real time information is required in order to implement these changes in behavior.

Q. Is this information currently available to customer?

A. Some information is available at a substantial cost. However, BOMA/Chicago suggests that if this information is being used as part of an energy efficiency program the cost of this information should be considered an energy efficiency program and therefore subsidized using funding collected under Section 12-103(d).

Q. Are you aware of any similar programs or studies that support this proposal?

A. Yes. First, the Public Utilities Commission of Ohio Staff (PUCO Staff) in Docket 05-1500-EL-COI investigated similar issues when investigating the feasibility of Advanced Metering Infrastructure. In the finding of the Staff Report the PUCO Staff found "… that staff should analyze the cost benefit of AMI deployment strategies … the analysis should include system benefits that may accrue to the EDU, customer benefits, and societal benefits."[1] Although this order does not specifically address the issue of using customer information as an energy efficiency measure, it does acknowledge it's importance for implementing energy efficiency and demand response programs. Furthermore, this order finds that systems

[1] http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=764CDA674553D8F5852571D80068385F

benefits accrue to electric distribution companies from the implementation of this strategy.

Q. Are you aware of any studies which conclude that providing additional metering and information capabilities can reduce the emission of effluents?

A. Yes. A United Kingdom group, the Carbon Trust, has published a report that estimates a significant reduction in carbon emissions for small to medium-sized businesses. The executive summary of this report is provided as BOMA Exhibit 1.2.

Q. Is BOMA/Chicago proposing the implementation of AMI on a system-wide basis?

A. No. An investment of that magnitude is significant and requires careful investigation before such a commitment is placed upon the Company. The BOMA/Chicago proposal much more modest. BOMA/Chicago is proposing that electric consumption information on a basis that would enable the implementation of demand response be considered as an energy efficiency program and be provided subsidies like many of the other measures proposed in this proceeding.

Q. What additional equipment is required by the customer that is currently not being provided by the Company?

A. First, in order to react to price signals from organizations such as PJM, interval meters and data feeds require much smaller intervals then have been provided in the past. For example, ComEd's tariffs have traditionally been based upon 30 minute integrated demand readings. However, in order to react to PJM price signals the interval must be shortened to 5 minutes.

Q. Is this equipment available from ComEd?

A. Potentially, but at a significant cost to the customer. For example, some residential customers have real time meters in order to participate in the residential real time program. For larger customers, this equipment is the missing lynchpin in establishing discerning efficiency investment opportunities and participation in robust demand response programs.

VI. Calculation of Section 12-103(d) Surcharges

Q. Have you reviewed ComEd Witness Crumrine's calculation of the Section 12-103(d) surcharges (ComEd Exhibits 5.1-5.3)?

A. Yes.

Q. Do you agree with Mr. Crumrine's approach to this calculation?

A. No. I disagree with Mr. Crumrine's approach to this calculation and have submitted an alternative calculation of the surcharge.

Q. Please describe you process for the review and the development of your alternative calculations of the surcharge.

A. The information for the basis of my alternative calculation of the surcharge was ComEd Exhibits 5.2 and 5.3. These schedules detail the estimated average cost of electric service by distribution delivery class.

Q. Have you performed an exhaustive review of these calculations and their inputs?

A. No. Given the accelerated schedule associated with this proceeding I was unable to perform a detailed review. Therefore, my testimony should not be interpreted as endorsing the assumptions or calculations in ComEd Exhibits 5.2 and 5.3. For example, Mr. Crumrine (Crumrine Direct page 14 line 320-332) states that the prices paid by customers receiving service were estimated using various inputs including the output of a market price forecast produced by the Northbridge Group. A reasonable review of such a model requires a significant effort reviewing the inputs such as projections of fuel prices, growth in peak load and sales, macroeconomic assumptions such as the overall level of inflation, assumptions about the installed cost, efficiency and non-fuel operations and maintenance of new generation technology (e.g. combined-cycle combustion turbines, simple-

cycle combustion turbines, coal plants, wind plants and other technologies) and other critical inputs. The next step of such a review would be to evaluate the internal algorithm used by the model to produce the results and determine if it is appropriate for the proposed study. Furthermore, market price models have different algorithms for producing price forecasts which are appropriate or inappropriate depending upon the use of the forecast and a review would require assurance that the specific algorithm used in that model was appropriate for the specific analysis in question. Last, a review of the output must be performed in ensure internal consistency with the input assumptions and overall reasonableness.

Q. Please describe you Exhibit BOMA 1.3

A. Column (a), (b) and (c) in BOMA Exhibit 1.3, page 1 correspond to June 1, 2006 through May 31, 2007 time period for ComEd Exhibit 5.1, Columns (A), (B) and (C). In other words, I have adopted the calculations and assumptions sponsored by Mr. Crumrine (but do not necessarily endorse the underlying calculations or assumptions). Pages 2 and 3 of BOMA Exhibit 1.3 is the same information for June 1, 2007 through May 31, 2008 and June 1, 2008 through May 31, 2009.

Q. Does your proposed calculation differ from the Company's proposal at this juncture?

A. Yes. BOMA Exhibit 1.3, page 4 details the alternative calculation by distribution delivery class. Please note, the total for ComEd as a whole match those proposed by the Company in ComEd Exhibit 5.3, Column G. The average factor for 2008 is 0.042¢/KWH, the average factor for 2009 is 0.086¢/KWH and the average factor for 2010 is 0.132¢/KWH.

Q. Does your alternative calculation of the Section 12-103(d) surcharge the total revenues received from retail customer or expose ComEd to any additional risk?

A. No. The alternative approach that is detailed below does not: (1) Reduce the level of revenues which the Company will collect from customers; (2) Expose the Company to an increased or decreased level of risk of over- or under-collection of revenues; and, (3) In no way will impede the Company from implementing any programs proposed in this proceeding when compared to their version of the calculation.

Q. How does your calculation differ from the one proposed by Mr. Crumrine?

A. The alternative calculation that I propose differentiates customers by Distribution Delivery Class and proposes a volumetric rate (cents per KWH) which is applied to each Distribution Delivery Class. In contrast, Mr. Crumrine's calculation creates a single factor applied to all retail customers of the Company.

Q. Does the alternative calculation provide for a more equitable collection of revenues?

A. Yes. The difference between the alternative approach and the method proposed by ComEd Witness Crumrine is the application of the Section 12-103(d) surcharge. Mr. Crumrine's proposal applies the surcharge to the total retail revenues of the company. In contrast, I apply the percentage to each retail rate class.

Q. Do you feel that the ComEd Proposal is consistent with the legislation?

A. First, I am not an attorney and cannot render a legal opinion. However, from a policy standpoint I cannot accept the proposed ComEd calculation after reviewing the legislation. I suggest that the alternative proposal which I propose is superior from a policy standpoint and is consistent with the legislation. In the alternative, I would find it reasonable to group customers of similar size/characteristics to together for the purposes of calculating the surcharge.

Q. Please summarize your conclusion.

A. I recommend that the Commission reject the Company's calculation of the Section 12-103(d) surcharge and adopt the approach I have proposed.

VII. Requiring Energy Efficiency While Setting Prices Based Upon Average Cost is Counter Productive

Q. What approach is currently used by ComEd for their cost of service analyses?

A. The Company currently uses Fully Allocated Cost of Service Studies to allocate costs and establish pricing.

Q. Do you feel that any inefficiencies are introduced when using pricing determined from an Allocated Cost of Service Study while simultaneously implementing energy efficiency?

A. Yes. A utility implementing energy efficiency is doing so because certain segments of electric usage is in excess of marginal cost. However, an Allocated Cost of Service Study is based upon average cost principles. A difference can exist between the marginal cost price signal associated with energy efficiency and the average cost price signal associated with the utility tariff. The difference between the two price signals could trigger customer confusion.

Q. Do you propose any specific action in this proceeding regarding ComEd's electric tariffs?

A. No. This matter should be addressed in a general rate case such as the one that the Company currently has filed before the Commission. However,

the design of a utility tariff can influence the effectiveness of energy efficiency programs such as the one that is being debated in this proceeding.

Q. Does this conclude your testimony?

A. Yes.